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XXXIV.—*List of Birds observed in Smith Sound and in the Polar Basin during the Arctic Expedition of 1875-76.* By H. W. FEILDEN.

IN the following notes I have confined myself to an enumeration of the various species of birds met with by the recent Arctic Expedition in Smith Sound and northward, between the seventy-eighth and eighty-third degrees of north latitude. All of the birds noted are well-known arctic forms; and the chief interest lies in the record of their great northern extension in the western hemisphere. The only other part of the globe lying within nearly the same parallels of latitude with which we are well acquainted is Spitsbergen; and though that group of islands has been frequently visited by accomplished and painstaking naturalists, yet the number of species of birds, including stragglers, at present known to have occurred there is under thirty. Were I to include in this list species recorded by Dr. Bessels* from Thank-God Harbour, not met with by me, the list of the avifauna of Smith Sound and Spitsbergen would be about numerically equal, thus ac-

* Bulletin de la Société de Géographie: Paris, 1875.

cording, as far as numbers are concerned, with the opinion published before the Expedition left England by one of the most distinguished members of our Society*; and, except amongst those sanguine persons who may still cling to a belief in the existence of an "open polar sea," I think it is impossible to doubt that, both specifically and numerically, bird-life must rapidly decrease with every degree of northern latitude after passing the eighty-second parallel. If, however, there be an extension of land to the northernmost part of our globe, I see no reason why a few species of birds should not resort there to breed; and those most likely to proceed there are *Plectrophanes nivalis*, *Strepsilas interpres*, *Calidris arenaria*, *Tringa canutus*, and *Sterna macrura*. There would still be sufficient summer, if such a term may be used, for the period of incubation; and from what I have seen of the transporting powers of the wind in drifting seeds over the frozen expanse of the polar sea, I cannot doubt that a scanty flora exists at the pole itself, if there be any land there, and that the abundance of insect-life which exists as high as the eighty-third degree will be present at the ninetieth, sufficient to provide for a few Knots, Sanderlings, and Turnstones. The arctic sea at the most northern point reached abounds with Amphipoda, such as *Anonyx nugax*, which doubtless extend all through the polar sea; and these crustaceans supply *Sterna macrura* with food in those parts where the continual presence of ice prevents fish coming to the surface; for wherever there is land there must be tidal ice-cracks, which allow these minute animals to work their way up between the floes. The range of the Brent-Goose is probably coincident with the range of *Saxifraga oppositifolia*; and this plant also supplies subsistence to the Knot and Turnstone, and probably the Sanderling, before the long arctic day has awakened the insect-life.

Ross's Gull (*Rhodostethia rosea*) not having been met with in Smith Sound, either by our expedition or that of the 'Polaris,' its absence from Spitsbergen, Franz-Joseph Land, and, as far as we know, the northern shores of Siberia, its not having been noticed by any of our arctic or Franklin-

* Newton, 'Arctic Manual,' p. 114: London, 1875.

search expeditions that entered Lancaster Sound, or skirted the northern shores of America from Behring's Straits, nor by observers in Alaska or the fur-countries, leads to the supposition that it must be a species of limited distribution, having its breeding-haunts to the north of Hudson's Bay. I would suggest that inquiries about this bird should be made among the Esquimo of Cumberland Gulf; and as it is chiefly American vessels that winter there, the Smithsonian Institution would, I think, have very little difficulty in inducing some person employed there to investigate this subject. Dr. Horner, of the yacht 'Pandora,' kindly informed me that in July 1876 he saw an example of *Saxicola ænanthe* at Port Foulke, a far more northern range of this species than had previously been recorded.

I was much struck with the extreme shyness of all the birds we met with in the far north; and until they had settled down to nesting it was no easy matter to get within gun-shot range.

+ 1. *FALCO CANDICANS*. Greenland Falcon.

The white form of Great Northern Falcon, though seen on several occasions, was not procured by us in Smith Sound. Mr. Hart noticed a pair of these birds nesting in the limestone cliffs near Cape Hayes, Grinnell Land (lat. $79^{\circ} 41' N.$), but was unable to secure a specimen. From this point to our most northern extreme this Falcon was not observed by any member of the expedition. On the 24th August, 1876, near Cape Fraser (lat. $79^{\circ} 47' N.$), when on our return southwards, a bird of this species flew round our vessels. The following morning, when on shore between Cape Hayes and Cape Napoleon, I saw a magnificent example of *F. candicans* seated on a rock; it permitted me to get within seventy or eighty yards; but I failed in trying to procure it.

+ 2. *NYCTEA SCANDIACA*. Snowy Owl.

This Owl is a common spring and summer migrant to the northern part of Grinnell Land. On the 2nd October, 1875, I observed an individual of this species seated on a hummock in the vicinity of our winter-quarters (lat. $82^{\circ} 27' N.$). On the 29th March, 1876, an example was seen by Lieutenant

Parr some three miles north of the ship. 15th May, whilst travelling up a valley (lat. $82^{\circ} 40' N.$) in Grinnell Land, our party disturbed a Snowy Owl from the ground. Subsequently this species was not unfrequently observed; a pair seemed to frequent and breed in each large valley running down to the sea-shore. On the 24th June we found a nest of these birds containing seven eggs (lat. $82^{\circ} 33' N.$); the nest was a mere hollow scooped out of the earth, and situated on the summit of an eminence which rose from the centre of the valley. Several other nests were found in the vicinity of winter-quarters, and at one time there were six or seven fine young birds caged on board. In the vicinity of Discovery Bay (lat. $81^{\circ} 44' N.$) this Owl bred abundantly. During the month of August, while proceeding southwards, it was no uncommon circumstance to see one or more of these birds occupying a conspicuous post on the bold headlands we were passing under. By the end of the month all had disappeared. The food of the Snowy Owl in Grinnell Land appears to consist entirely of the lemming (*Mýodes torquatus*). Hundreds of their cast pellets, which I picked up and examined, consisted of the bones and fur of these little animals; and the stomachs of all I opened contained the same.

+3. PLECTROPHANES NIVALIS. Snow-Bunting.

After passing the 78° of north latitude this species is not met with in the same numbers as in the neighbourhood of the Danish settlements of West Greenland, but is dispersed generally along the shores of Smith Sound and the Polar Basin. On the 28th August, 1875, at Shift-rudder Bay (lat. $81^{\circ} 52' N.$), I observed a flock of about eighty, and a second, in which I counted over twenty, flying south. 14th September, Lieutenant Parr met with a solitary individual in lat. $82^{\circ} 35' N.$; and the last one I observed that season flew past the ship on the 24th September.

I first heard the note of this bird when travelling, on the 13th May 1876, in lat. $82^{\circ} 35' N.$; the following day I observed one; and after that day they were frequently met with. On the 27th May Lieutenant Parr, on his journey from the

north over the ice, saw a Snow-Bunting near to the 83° . I found a nest of this species on the 24th June (lat. $82^{\circ} 33'$ N.), containing four eggs, within twenty feet of the nest of a Snowy Owl; it was neatly constructed of grasses, and lined with the Owl's feathers. On another occasion I found a nest lined with the soft wool of the musk-ox.

+4. *CORVUS CORAX*. Raven.

A pair of these birds were observed by Dr. Coppinger to be nesting in the cliffs of Cape Lupton during the month of July. While this officer was detained at Polaris Bay by the sickness of some of the sledge-crews, he noticed these birds visit their camp daily in search of offal. The Raven was not observed by any of our expedition along the shores of the Polar Basin; so that I consider Cape Lupton (lat. $81^{\circ} 44'$ N.) the northernmost settlement of this species. 29th August, 1876, at Dobbin Bay (lat. $79^{\circ} 36'$ N.), a female, one of a pair, was shot by Dr. Moss, who enticed it within range by laying down a dead hare and concealing himself near at hand. South of Dobbin Bay I observed this species at several points in Smith Sound—namely, at Cape Hayes, Norman-Lockyer Island, and Cape Sabine.

+5. *LAGOPUS RUPESTRIS*. Rock-Ptarmigan.

This Ptarmigan was obtained by our sledging parties as far north as $82^{\circ} 46'$, two or three couples having been killed in the end of May on Feilden Peninsula. Lieutenant Aldrich found traces of Ptarmigan on Cape Columbia (lat. $83^{\circ} 6'$ N.), the most northern land yet visited by man. On the 29th September, 1875, Captain Markham, in lat. $82^{\circ} 40'$ N., observed four of these birds; and the earliest date on which they were noticed in the spring of 1876 was on the 11th March.

+6. *STREPSILAS INTERPRES*. Turnstone.

This bird is tolerably abundant in Smith Sound and the region north of it visited by the Expedition. It was observed as late as the 5th September, 1875, in lat. $82^{\circ} 30'$ N., and was first noticed on the 5th June, 1876, in the neighbourhood of the winter-quarters of H.M.S. 'Alert.' By the 12th August the young broods were able to fly.

+7. *ÆGIALITIS HIATICULA*. Ringed Plover.

Only a single example of this species was observed in Smith Sound. It was obtained 4th August, 1875, on the beach bordering the valley of the Twin glacier, in Buchanan Strait (lat. $78^{\circ} 48'$ N.). My attention was drawn to the bird by its note; and I then observed it threading its way among the stones and stranded blocks of ice near the water's edge. It was probably nesting in the neighbourhood, as it proved on examination to be a female, with the feathers worn off the underparts from incubation.

+8. *CALIDRIS ARENARIA*. Sanderling.

I first observed this species in Grinnell Land on the 5th June, 1876, flying in company with Knots and Turnstones; at this date it was feeding, like the other Waders, on the buds of *Saxifraga oppositifolia*. This bird was by no means abundant along the coasts of Grinnell Land; but I observed several pairs in the aggregate, and found a nest of this species containing two eggs, in lat. $82^{\circ} 33'$ N., on 24th June, 1876. This nest, from which I killed the male bird, was placed on a gravel ridge, at an altitude of several hundred feet above the sea; and the eggs were deposited in a slight depression in the centre of a recumbent plant of arctic willow, the lining of the nest consisting of a few withered leaves and some of the last year's catkins. 8th August, 1876, along the shores of Robeson Channel, I saw several parties of young ones, three to four in number, following their parents, and led by the old birds, searching most diligently for insects. At this date they were in a very interesting stage of plumage, being just able to fly, but retaining some of the down on their feathers.

+9. *PHALAROPUS FULICARIUS*. Grey Phalarope.

I obtained an example of this species, a female, near our winter-quarters (lat. $82^{\circ} 27'$ N.) on the 30th June 1876; and during the month of July I observed a pair on a small fresh-water pond in lat. $82^{\circ} 30'$ N.; they were apparently breeding. The female of this species is larger and brighter-coloured than the male bird. Several other examples were observed in the neighbourhood of our winter-quarters by various members of the expedition.

+10. TRINGA CANUTUS. Knot.

I was not so fortunate as to obtain the eggs of this species during my stay in the polar regions, though it breeds in some numbers along the shores of Smith Sound and the north coast of Grinnell Land. It appears to be common throughout the Parry Islands during summer, as Sabine found it (1820) nesting in great numbers on Melville Island. I find it enumerated in a list of birds (preserved in the archives of the Admiralty) as procured by Dr. Anderson, of H.M.S. 'Enterprise,' at Cambridge Bay (lat. $69^{\circ} 10' N.$) in July 1853. On the 28th July, 1875, Dr. Coppinger came across a party of six Knots several miles inland from Port Foulke: these birds were feeding near a rill, and were very wild; but he managed to secure a single specimen, a male in full breeding-plumage. August 25, 1875, I observed several of these birds near the water-edge in Discovery Bay (lat. $81^{\circ} 44' N.$). The rills and marshes were by this time frozen, and the birds were feeding along the shore on the small crustaceans so common in the arctic seas; in pursuit of their food they ran breast-high into the water. By this date they had lost their breeding-plumage. On 5th June, 1876, when camped near Knot Harbour, Grinnell Land (lat. $82^{\circ} 33' N.$), we noticed the first arrival of these birds; a flock of fourteen or more were circling over a hill-side, alighting on bare patches, and feeding eagerly on the buds of *Saxifraga oppositifolia*. Subsequently we met with this bird in considerable numbers; but they were always very wild and most difficult of approach. The cry of the Knot is wild, and something like that of the Curlew. Immediately after arrival in June they began to mate, and at times I noticed two or more males following a single female; at this season they soar in the air, like the common Snipe, and when descending from a height beat their wings behind the back with a rapid motion, which produces a loud whirring noise. During the month of July my companions and I often endeavoured to discover the nest of this bird; but none of us were successful; however, on the 30th July, 1876, the day before we broke out of our winter-quarters, where we had been frozen-in eleven months, three of our seamen, walking by the border

of a small lake, not far from the ship, came upon an old bird accompanied by three nestlings, which they brought to me. The old bird proved to be a male; its stomach, and those of the young ones, were filled with insects. The following description of the newly hatched birds was taken down at the time:—Iris black; tip of mandibles dark brown, bill dark olive; toes black, soles of feet greenish yellow; back of legs the same; underpart of throat satin-white; back beautifully mottled tortoise-shell. Dr. Coppinger informed me that this bird was not uncommon at Thank-God Harbour during July. In the first week of August, I saw family parties of Knots at Shift-rudder Bay (lat. $81^{\circ} 52'$ N.); they were then in the grey autumn plumage. The Knot bred in the vicinity of Discovery Bay; but no eggs were found there, although the young were obtained in all stages of plumage.

+11. STERNA MACRURA. Arctic Tern.

Is not uncommon in Smith Sound, and we found it breeding at several localities we visited on our way north. 11th August, 1875, on Norman-Lockyer Island, I noticed several pairs, and picked up a bleached egg, probably an addled one of a former season. August 21st, we found eight or ten pairs breeding on a small islet off the north end of Bellot Island (lat. $81^{\circ} 44'$ N.): the land at this date was covered with snow; and on the islet it lay about three inches deep. In one nest I found a newly hatched Tern; it seemed quite well and lively in its snow cradle. The parent birds had evidently thrown the snow out of the nest as it fell; for it was surrounded by a border of snow marked by the feet of the old birds, and raised at least two inches above the general level. The Terns on this islet were rather shy, none coming within range until I had handled the young one. There seemed to be abundance of fish in the pools between the floes, as the old birds were flying with them in their mandibles. The stomach of the female which I killed was empty; but that of the nestling contained remains of fish. On the 16th June, 1876, three of these birds appeared in the neighbourhood of the winter-quarters of the 'Alert.' By the end of June pairs of these birds were scat-

tered at intervals along the coast; and a nest, scraped in the gravel and containing two eggs, was found 27th June, about three miles north of our winter-quarters. During the first week in August we found a pair of young birds nearly ready to fly in lat. $81^{\circ} 50' N$.

+12. *PAGOPHILA EBURNEA*. Ivory Gull.

One of the Gulls most frequently observed in Smith Sound, but not beyond latitude $82^{\circ} 20' N$. I found a pair nesting in a lofty and inaccessible cliff near Cape Hayes on the 16th August, 1875. On 1st September a single example flew around the 'Alert' when she lay moored to the ice in Lincoln Bay (lat. $82^{\circ} 6' N$). On the 2nd August, 1876, I observed one of this species near Cape Union; on the 12th August they were common in Discovery Bay, and from there southward to the north water of Baffin Bay.

+13. *RISSA TRIDACTYLA*. Kittiwake.

I saw a few examples of this species flying over the open water in the vicinity of Port Foulke, 28th July, 1875; but we did not observe it to the northward after entering the ice of Smith Sound; and in 1876 no specimen was seen as the expedition returned south, until the north water of Baffin Bay was reached.

+14. *LARUS GLAUCUS*. Glaucous Gull.

We did not find this species breeding north of Cape Sabine; but stray individuals were observed as far north as lat. $82^{\circ} 34'$. The 1st September, 1875, was the latest date in the autumn on which I noticed this species; and it reappeared in the vicinity of winter-quarters (lat. $82^{\circ} 27' N$.) in the middle of June.

+15. *STERCORARIUS LONGICAUDATUS*. Buffon's Skua.

This was the only species of Skua Gull that I met with in Smith Sound; it arrived in the neighbourhood of our winter-quarters during the first week of June, and in considerable numbers. After that date it was to be seen during every hour of the day quartering the fells and searching for lemmings. It lays its two eggs in a small hollow in the ground, and defends its nest with the utmost bravery. On several occasions

I have struck the old birds with my gun-barrel when warding off their attacks as I plundered their nests. This species can easily be distinguished from its near ally, *S. parasiticus*, at every age, by the mottled colour of the tarsus and webs of the feet, which in *S. parasiticus* are black.

+16. PROCELLARIA GLACIALIS. Fulmar.

Common in the north water of Baffin Bay; and individuals followed our ships until we entered the pack off Cape Sabine. On the 26th June, 1876, Lieutenant Parr and I, when travelling on the coast of Grinnell Land (lat. $82^{\circ}30'N.$), observed one of these birds; and a few days later Lieutenant Egerton found one dead on the shore some two miles further to the northward. We did not observe this species again till our return to Baffin Bay in September 1876.

+17. URIA GRYLLE. Black Guillemot.

The Dovekie was found breeding at various spots along the shores of Smith Sound and northward, notably at Washington-Irving Island, Dobbin Bay, Cape Hayes, and Bessels Bay; it does not, I think, breed north of Cape Union. I saw two or three examples feeding in pools on the floe as far north as lat. $82^{\circ}33'$; but they were evidently mere stragglers.

+18. MERGULUS ALLE. Little Auk.

The north water of Baffin Bay is the summer home of countless numbers of these birds; they do not, however, penetrate in any numbers far up Smith Sound, the most northern point where I observed them being in Buchanan Strait (lat. 79°). I do not think that they breed to the north of Foulke Fiord; but the talus at the base of the cliffs that flank that inlet is occupied by myriads of them during the nesting-season. On the 28th July, we found the young just hatched; they are in that stage covered with black down. From the large amount of bones and feathers lying around the huts of the Esquimo village of Etah, it is evident that these birds contribute largely to the support of the Arctic Highlanders during summer.

+19. ALCA BRUENNICHII. Bruennich's Guillemot.

I observed two individuals of this species in August as far

north as Buchanan Strait (lat. 79°); but this bird was not seen again by me until our return southward in September 1876, after regaining navigable water south of Cape Sabine. The north water of Baffin Bay is evidently the limit of the northern range of the species in that direction; and I doubt if there are any breeding-haunts of this species north of Cape Alexander.

20. COLYMBUS ———.

On the 2nd September, 1875, at Floeberg Beach (lat. $82^{\circ} 27'$ N.), a Diver, I think *C. septentrionalis*, alighted in a pool about a hundred yards from the ship. A boat was instantly lowered; but the noise made by pushing the boat through the young ice alarmed the bird, which rose and flew to another pool half a mile to the southward. I tried to make my way over the floe towards the bird; but the ice was unsafe, so I had to give up the pursuit. The numerous lakes and ponds in Grinnell Land abound with a species of char (*Salmo arcturus*, Günther), which doubtless might afford good living to birds of this family.

+ 21. HARELDA GLACIALIS. Long-tailed Duck.

We observed a flock of this species swimming in the pools of water between the floes on the 1st September, 1875, near Floeberg Beach (lat. $82^{\circ} 27'$ N.). On the 16th September two were shot not far from the ship. During the summer of 1876 a few of these birds visited the northern shores of Grinnell Land; we found them in pairs on lakes and ponds, where they were evidently breeding. From the rapidity with which they dive they are very difficult to shoot, and when secured do not repay the outlay in powder and lead.

+ 22. SOMATERIA MOLLISSIMA. Eider.

This species breeds in great numbers in the neighbourhood of Port Foulke, but decreased in numbers as we advanced northwards. It became rare after passing Cape Fraser, the meeting-place of the polar and Baffin-bay tides, but was replaced to some extent by the next species. I did not obtain an Eider north of Cape Union. Dr. Coppinger procured both Eider and King-Duck at Thank-God Harbour (lat. $81^{\circ} 38'$ N.) in the month of July, 1876.

+23. *SOMATERIA* *SPECTABILIS*. King-Duck.

I did not obtain this bird in Smith Sound during the autumn of 1875; but in the end of June 1876 several flocks of males and females, numbering from ten to twenty individuals, were seen near Floeberg Beach (lat. $82^{\circ} 27'$ N.). Most of these fell a prey to our gunners; but those that escaped settled down to breed along the coast, and several nests were found with fresh eggs in them from the 9th to the middle of July.

+24. *BERNICLA* *BRENTA*. Brent-Goose.

During the first week of June, parties of these birds arrived in the vicinity of our winter-quarters (lat. $82^{\circ} 27'$ N.); for some days they continued flying up and down the coast-line, evidently looking out for places bare of snow to feed on. They were very wary, and kept well out of gun-shot range. On the 21st June I found the first nest with eggs, in lat. $82^{\circ} 33'$ N.; subsequently many were found. When the young are hatched the parent birds and broods congregate on the lakes or in open water spaces near the shore in large flocks; by the end of July the old birds were moulting and unable to fly, so that they were easily secured, and afforded most valuable change of diet to our sick. The flesh of this bird is most excellent.

The gander remains in the vicinity of the nest while the goose is sitting, and accompanies the young brood. In one instance where I killed a female as she left her nest the gander came hissing at me.

XXXV.—*On the Nesting of the Spoonbill in Holland.*

By P. L. SCLATER and W. A. FORBES.

THAT the Spoonbill (*Platalea** *leucorodia*) breeds in Holland is a fact well known to every ornithologist; and most egg-collectors are aware that specimens of its eggs obtained in that country are to be purchased at a very cheap rate in the

* Mr. Dresser (B. Eur. pt. 23-24) uses *Platea* as the generic name of the Spoonbill instead of *Platalea*. It may be hoped, however, that this is a mere oversight, and that Mr. Dresser is not prepared to dissent from the canon that Linnean names are to remain inviolate.